

IN THE CLAIMS:

This listing of the claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) An image recording/reproducing apparatus comprising:

an input unit for receiving a record command, and directing image data stored in an optical recording medium to be recorded in an internal recording medium;

a video encoder for encoding the stored image data;

a video decoder for decoding the image data which is encoded by the video encoder; and

a main control unit for controlling the video encoder and the video decoder to perform encoding and decoding with respect to the image data stored in the optical recording medium in response to the input of the record command through the input unit, and also controlling the video decoder such that the image data can be decoded based on a predetermined TV broadcasting method which is applied during the encoding, and processing the decoded image data for recording in the internal recording medium.

2. (Original) The image recording/reproducing apparatus of claim 1, wherein the video decoder comprises:

a register which records in a predetermined area the setting values with respect to a TV broadcasting method, and the main control unit provides a control to update the setting values of the TV broadcasting method based on the predetermined TV broadcasting method applied during the encoding, and controls the video decoder to decode the data based on the updated setting values of the TV broadcasting method.

3. (Original) A control method of an image recording/reproducing apparatus for recording image data stored in an optical recording medium onto an internal recording medium, the control method comprising the steps of:

encoding the image data stored in the optical recording medium in accordance with a predetermined TV broadcasting method;

detecting the predetermined TV broadcasting method which is applied during the encoding; and

decoding the encoded image data in accordance with the detected predetermined TV broadcasting method.

4. (Original) The control method of claim 3, wherein the predetermined TV broadcasting method is one of NTSC, PAL and SECOM.

5. (New) A method for saving temporarily stored information on a hard disk drive (HDD) of an image recording/reproducing apparatus into a plurality of certain sized clusters, comprising:

receiving a recording request for recording image/sound signals;

recording temporarily the image/sound signals and attribute information regarding the image/sound signals in a temporary recording area on the HDD;

determining whether a power-off command has been received by the main control unit, and if so, further determining whether there is temporarily recorded image/sound signals and attribute information in the temporary recording area on the HDD; and

recording the temporarily recorded image/sound signals and attribute information in non-recorded portions of a long-time period recording area of the HDD

if there are temporarily recorded image/sound signals and attribution information in the temporary recording area of the HDD.

6. (New) The method according to claim 5, further comprising:
recording the temporarily recorded image/sound signals and attribute information in a non-recorded long-time period recording area of the HDD.

7. (New) The method according to claim 6, wherein the step of recording the temporarily recorded image/sound signals and attribute information comprises:

checking and processing location information about un-recorded clusters such that the image/sound signals are recorded in a plurality of un-recorded clusters of a data recording area of the HDD;

recording the attribute information in the plurality of un-recorded clusters of a root directory area of the HDD; and

recording the information about the respective clusters in a FAT area of the HDD and on a long-time period basis.

8. (New) The method according to claim 5, wherein the step of receiving a recording request comprises:

generating the attribute information about the requested signals to be recorded;
and

processing the attribute information such that the attribute information and the image/sound signals are provided to the HDD for recording.

9. (New) The method according to claim 8, wherein the steps of generating and processing the attribute information are performed by a main control unit in the image recording/reproducing apparatus, and the image/sound signals are provided

through a data management unit in the image recording/reproducing apparatus to the HDD.

10. (New) The method according to claim 5, wherein the step of recording temporarily the image/sound signals and attribute information in a temporary recording area on the HDD comprises:

reading from a file allocation table (FAT) portion of a long-time period recording area of the HDD information about clusters of the long-time period recording area; and

determining from the information read from the FAT about clusters of the long-time period recording area location information about un-recorded clusters; and

processing the information read such that the image/sound signals can be recorded in a plurality of un-recorded clusters of the HDD.

11. (New) The method according to claim 10, wherein the information about clusters of the long-time period recording area comprises location information of the clusters and information as to whether data is recorded in those clusters.

12. (New) The method according to claim 10, wherein information about the respective clusters is temporarily recorded in the temporary recording area on the HDD.

13. (New) The method according to claim 10, wherein the steps of processing the attribute information, reading from a FAT information about clusters and processing the read information about clusters are performed by a data management unit of the image recording/reproducing apparatus.

14. (New) The method according to claim 5, wherein the step of recording the temporarily recorded image/sound signals and attribute information in non-recorded long-time recording areas of the HDD comprises:

determining the location of un-recorded clusters with no data therein, based on the information read from the FAT area, such that the image/sound signals can be recorded in a plurality of un-recorded clusters on a long-time period basis; and

dividing and recording the attribute information in the plurality of un-recorded clusters of a root directory area of the HDD for a long-time period basis.

15. (New) The method according to claim 14, further comprising:

updating the FAT area following the step of recording the temporarily image/sound signals and attribute information regarding the image/sound signals in a non-recorded long time period recording area of the HDD.

16. (New) The method according to claim 5, wherein the step of determining whether a power-off command has been received comprises:

notifying a data management unit that the power-off command has been received by the main control unit.

17. (New) The method according to claim 5, further comprising:

turning off the image recording/reproducing apparatus.

18. (New) The method according to claim 17, wherein the step of turning off the image recording/reproducing apparatus is performed by a main control unit of the image recording/reproducing apparatus.

19. (New) A method for recording permanently a temporarily recorded externally received currently viewed program on a long-term basis:

recording temporarily the currently viewed externally received program in a volatile recording area;

receiving a long-time period recording command with respect to the temporarily recorded currently viewed externally received program; and

recording the temporarily recorded currently viewed externally received program on a long-time basis in an area of a long-time period recording region which holds no data.

20. (New) The method according to claim 19, wherein the temporarily recorded currently viewed externally received program is comprised of image signals encoded by an MPEG encoder and sound signals converted by a sound analog-to-digital converter.

21. (New) The method according to claim 19, wherein the step of recording temporarily the currently viewed externally received program in a volatile recording area is recorded on a first-in first-out basis.

22. (New) the method according to claim 19, wherein the long-time period recording region comprises non-volatile memory.

23. (New) A method for dividing a hard disk drive (HDD) of an image recording/reproducing apparatus into a plurality of certain sized clusters, comprising:
selecting at least one of a plurality of HDD division method choices; and
formatting the HDD into a plurality of clusters of different sizes according to the selected HDD division method choice.

24. (New) The method according to claim 23, wherein the step of selecting a HDD division method comprises:

providing controls to a video display unit electrically connected to the image recording/reproducing apparatus to display a sub-screen, the sub-screen providing at least one choice corresponding to at least one HDD division method for selection; and receiving a selected first choice as to which HDD division method is desired.

25. (New) The method according to claim 23, wherein the step of formatting the HDD into a plurality of clusters of different sizes according to the received selected choice comprises:

formatting the HDD by a cluster forming unit in a data management unit under the control of the main control unit.

26. (New) The method according to claim 23, wherein the step of formatting the HDD into a plurality of clusters of different sizes according to the received selected choice comprises:

formatting the hard disk drive into clusters for storing MPEG files, MP3 files and picture files.

27. (New) The method according to claim 26, wherein the step of formatting the hard disk drive into clusters for storing MPEG files, MP3 files and picture files comprises:

formatting general clusters for the MP3 and picture files; and
formatting a plurality of general clusters to form a super cluster of large capacity for the MPEG files.

28. (New) The method according to claim 23, further comprising:
determining whether to proceed with formatting the HDD; and
receiving an affirmative decision to proceed with formatting the HDD.

29. (New) An image recording/reproducing apparatus, comprising:
a hard disk drive divided into one or more regions, wherein a region comprises
a data recording region for storing data and information related to the data;
a data management unit for controlling the hard disk drive; and
a main control unit for controlling the data management unit to divide the
HDD into a plurality of clusters of different sizes.

30. (New) The apparatus according to claim 29, wherein the data management
units comprises:
a cluster forming unit, an extension searching unit and a file recording unit.

31. (New) The apparatus according to claim 30, wherein the cluster forming
unit forms the HDD into a plurality of clusters of different sizes according to controls
provided by the main control unit.

32. (New) The apparatus according to claim 31, wherein the clusters of
different sizes comprises:
a general cluster for storing MP3 and picture files; and
a plurality of general clusters for MPEG files.

33. (New) The apparatus according to claim 29, further comprising:
a video display unit, for displaying a sub-screen according to controls provided
by the main control unit, the sub-screen requesting a user to select a HDD division
method from at least one option a HDD division method choices.

34. (New) The apparatus according to claim 33, further comprising:

the video display unit for displaying an additional dub-screen according to controls provided by the main control unit, the additional sub-screen confirming that the user desires to form the HDD according to the selected HDD division method.

35. (New) A method for storing files in a hard disk drive (HDD) of an image recording/reproducing apparatus formatted into a plurality of certain sized clusters on the HDD, comprising:

determining extension information of the files to be stored from attribute information contained in the files for storing;

comparing the determined extension information of the files to be stored with an extension table;

determining which clusters in the extension table match the determined extension information of the files to be stored; and

storing the files in the clusters which match the determined extension information of the files to be stored.

36. (New) The method according to claim 35, wherein the step of determining extension information of the files to be stored from attribute information contained in the files for storing is performed by an extension searching unit in a data management unit of the image recording/reproducing apparatus.

37. (New) The method according to claim 35, wherein the steps of comparing the determined extension information of the files to be stored with an extension table and determining which clusters in the extension table match the determined extension information of the files to be stored is performed by a cluster selecting unit in a data management unit of the image recording/reproducing apparatus.

38. (New) The method according to claim 35, wherein the step of storing the files in the clusters which match the determined extension information of the files to be stored is performed by a file recording unit in a data management unit of the image recording/reproducing apparatus.

39. (New) An apparatus for storing files in an image recording/reproducing apparatus, comprising:

- a hard disk drive (HDD) divided into one or more regions, and comprising a data recording region for storing data and information related to the data and which is formatted into a plurality of different sized clusters;

- a data management unit for controlling the HDD; and

- a main control unit for controlling the data management unit to store files in an appropriately sized cluster in the HDD according to an extension of the files to be stored.

40. (New) The apparatus according to claim 39, wherein the data management unit comprises:

- a cluster forming unit for storing an extension table that correlates clusters with different extensions;

- an extension searching unit for searching for and determining extension information of the files to be stored;

- a cluster selecting unit for comparing the determined extension information with the extension table to determine which cluster the file should be stored in; and

- a file recording unit for storing the file in the cluster determined by the cluster selecting unit.

41. (New) A method for dividing a hard disk drive (HDD) of an image recording/reproducing apparatus into a plurality of certain sized clusters, such that editing can be performed on files stored on the divided HDD, the method comprising:
determining a HDD division method from at least one of HDD division method choices; and

formatting the HDD into a first recording area for MP3 and JPEG files, a second recording area, and a third recording area for MPEG files and a hidden buffer area, the hidden buffer area provided so that editing can be done to MPEG files stored in the third recording area.

42. (New) The method according to claim 41, wherein the step of determining the HDD division method comprises:

providing controls to a video display unit electrically connected to the image recording/reproducing apparatus to display a sub-screen, the sub-screen displaying at least one choice corresponding to at least one HDD division method for selection; and
receiving a selected first choice as to which HDD division method to choose.

43. (New) The method according to claim 41, wherein the step of formatting the HDD into a plurality of clusters of different sizes according to the received selected choice comprises:

formatting the HDD by a cluster forming unit in a data management unit under the control of the main control unit.

44. (New) The method according to claim 41, wherein the step of formatting the HDD into first, second and third recording areas comprises:

formatting general clusters for the MP3 and JPEG files; and
formatting a plurality of general clusters to form a super cluster of large capacity for the MPEG files.

45. (New) The method according to claim 41, further comprising:
determining whether to proceed with formatting the HDD; and
receiving an affirmative decision to proceed with formatting the HDD.

46. (New) An image recording/reproducing apparatus allowing editing to be performed on stored files, comprising:
a hard disk drive;
a data management unit for controlling the hard disk drive; and
a main control unit for controlling the data management unit to format the HDD into a first recording area for MP3 and JPEG files, a second recording area, and a third recording area for MPEG files and a hidden buffer area, the hidden buffer area provided so that editing can be done to MPEG files stored in the third recording area

47. (New) The apparatus according to claim 46, wherein the data management unit comprises:

a cluster forming unit for formatting the HDD into a plurality of clusters of different sizes according to controls provided by the main control unit.

48. (New) The apparatus according to claim 46, wherein the clusters of different sizes comprises:

a general cluster for storing MP3 and picture files; and
a plurality of general clusters for MPEG files.

49. (New) The apparatus according to claim 46, further comprising:

a video display unit, for displaying a sub-screen according to controls provided by the main control unit, the sub-screen requesting a user to select a HDD division method from at least one HDD division method choices.

50. (New) The apparatus according to claim 49, further comprising:
the video display unit for displaying an additional sub-screen according to controls provided by the main control unit, the additional sub-screen confirming that the user desires to form the HDD according to the selected HDD division method.

51. (New) A method for preventing booting errors during initialization of a hard disk drive (HDD) of an image recording/reproducing apparatus, comprising:
powering on the image recording/reproducing apparatus;
initializing respective parts of the image recording/reproducing apparatus in the order of receiving power;
performing a HDD self-initialization;
determining whether a predetermined number of HDD self-initialization failures have occurred during initialization of the image recording/reproducing apparatus, and if so, blocking power to the HDD following completion of initialization of the image recording/reproducing apparatus; and
completing HDD self-initialization if a predetermined number of HDD self-initialization failures have not occurred during initialization of the image recording/reproducing apparatus.

52. (New) An apparatus for preventing booting errors during initialization of a hard disk drive (HDD) of an image recording/reproducing apparatus, comprising:
a power supply for providing power to the image recording/reproducing apparatus,
a HDD for storing data and performing a self-initialization during initialization of the image recording/reproducing apparatus;
a power control unit for controlling the power supply; and

a main control unit for determining whether a predetermined number of HDD self-initialization failures have occurred during initialization of the image recording/reproducing apparatus, and if so, providing a control signal to the power control unit blocking power to the HDD following completion of initialization of the image recording/reproducing apparatus and allowing completion of the HDD self-initialization if a predetermined number of HDD self initialization failures have not occurred during initialization of the image recording/reproducing apparatus.

53. (New) A method for automatically deleting error files generated from a hard disk drive (HDD) of an image recording/reproducing apparatus, comprising:

deleting error files automatically upon the occurrence of an initiating event;
reading a user database (D/B) file of a first of one or more program files recorded in the HDD, the user D/B file comprising a header portion and a user data portion recorded on the HDD; and

determining whether the user data is present, and deleting the first program file if the user data is not present.

54. (New) The method according to 53, wherein the step of deleting error files automatically upon the occurrence of an initiating event comprises:

deleting error files automatically upon reception of an execution command for a program list function.

55. (New) The method according to claim 53, wherein the step of deleting error files automatically upon the occurrence of an initiating event comprises:

deleting error files automatically upon turning the image recording/reproducing apparatus on or off.

56. (New) The method according to claim 53, further comprising:

continuing to read user D/B files of other program files and determining the presence of the user data portion if the user data portion is present in the first program file.

57. (New) The method according to claim 53, wherein the step of reading a user D/B file of a first of one or more program files recorded in the HDD is performed by a main control unit of the image recording/reproducing apparatus.

58. (New) The method according to claim 53, wherein the step of determining whether the user data portion is present is performed by an error detecting unit of the image recording/reproducing apparatus.

59. (New) The method according to claim 53, wherein the step of deleting the first program file if the user data is not present is performed by a main control unit of the image recording/reproducing apparatus.

60. (New) The method according to claim 53, wherein the user data portion comprises data corresponding to title, source, filename, year, month data, hour, minute, second and/or length information.

61. (New) An apparatus for automatically deleting error file generated from a hard disk drive (HDD) of an image recording/reproducing apparatus, comprising:

a HDD for storing program files, the program files comprising a user D/B portion and a MPEG portion, the user D/B portion further comprising a header portion and a user data portion;

a main control unit for reading the user D/B file from the first of one or more program files and deleting the first program file if the user data is not present; and

an error detecting unit for determining whether the user data portion is present.

Appl. No. 10/751,298
Prel. Amdt. Dated: June 8, 2004

62. (New) The apparatus according to claim 61, wherein the user data comprises one or more of title, source, filename, year, month data, hour, minute, second and length information.